

Inside Wallops

National Aeronautics and Space Administration
Goddard Space Flight Center
Wallops Flight Facility, Wallops Island, Va.



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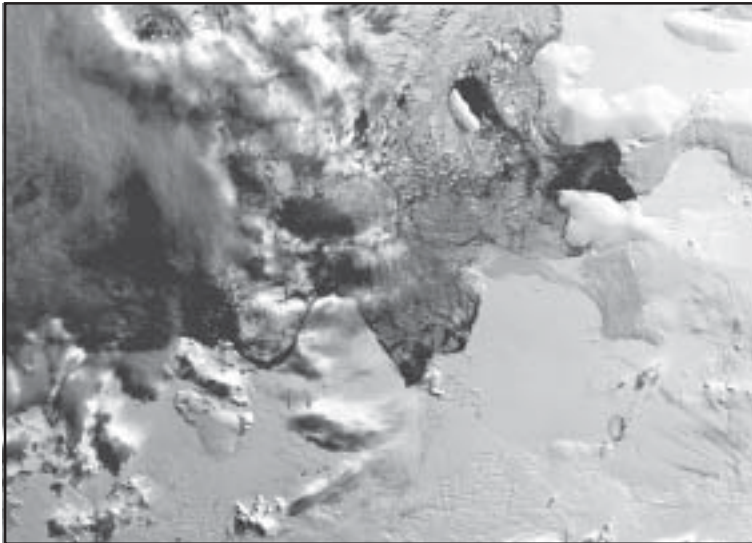
Number 33

September 27, 2004

Scientists Report Increased Thinning of West Antarctic Glaciers

Glaciers in West Antarctica are shrinking at a rate substantially higher than that observed in the 1990s. They are losing 60 percent more ice into the Amundsen Sea than they accumulate from inland snowfall.

The study was conducted by a science team from NASA, U.S. universities and from the



The Moderate Resolution Imaging Spectroradiometer (MODIS) on the Terra satellite captured this image of the Amundsen Sea region in March 2004.

Centro de Estudios Científicos (CECS) in Chile. It is based on satellite data and comprehensive measurements made in 2002 by a science team aboard a Chilean P-3 aircraft equipped with NASA sensors. Science Express published the findings on Thursday, September 23.

The ice loss from the measured glaciers corresponds to an annual sea-level rise of .008 inches or more than 10 percent of the total global increase of about .07 inches per year.

For a balanced glacial system, the amount of glacier ice that is melting or flowing into the sea roughly equals the ice being formed from snow accumulations further inland. The scientists report that the Amundsen Sea glaciers are not in balance.

Bob Thomas, a science team member with EG&G Services at the NASA Wallops Flight Facility, commented that as the glaciers flow to the ocean, they become afloat to form ice shelves. "The ice shelves act like a cork and slow down the flow of the glacier," Thomas said.

"Ice shelves in the Amundsen Sea appear to be thinning, offering less resistance to their tributary glaciers. Our measurements show an increase in glacier thinning rates that affects not only the mouth of the glacier, but also 60 miles to 190 miles inland," Thomas said.

The scientists noted the earth underneath the ice is further below sea level than had been assumed, so the ice is thicker than

once thought. This increases the amount of ice that each glacier can discharge into the ocean as its speed increases. It makes it easier for the thinning glacier to float free from its bed, and thus further "loosen the cork," Thomas said.

Thomas pointed out that the observed increases in velocities and thinning rates apply to only a short time period, so it is too early to tell if the accelerated thinning is part of a natural cycle or is a sign of a longer-term change.

In the last 10 years the ability to accurately measure glaciers world-wide has greatly improved. Measurements from aircraft and satellites like NASA's Ice, Cloud and Land Elevation Satellite (ICESat), launched in 2003, have greatly improved accuracy.

Wallops Shorts Launches

A NASA Terrier-Improved Orion sounding rocket was launched from White Sands Missile Range, N.M., on September 23. The flight was to prove the NASA Sounding Rocket Operations Contract (NSROC) developed Inertial Attitude Control System in a spinning configuration and demonstrate the ST-5000 star tracker. There was an apparent inertial sensor anomaly at 15 seconds into the flight (approximately at Orion ignition). David Krause, NSROC, Orbital Science, was the principal investigator and Bill Payne, NSROC, Northrop-Grumman, was the mission manager.

A NASA scientific balloon was launched from Ft. Sumner, N.M., on September 23. The 29.47 million cubic foot balloon carried multiple remote sensing instruments measuring the abundance of ozone and other components to determine the chemical composition of the atmosphere. Drs. Geoff Toon, Robert Stachnik and Herbert Pickett from NASA's Jet Propulsion Laboratory and Dr. Wesley Traub from Harvard University were the principal investigators. Float altitude was 123,000 feet. Total flight time was 27 hours, 28 minutes,

In the News

Richmond Times-Dispatch
"Folded Ice Discovered Beneath Antarctica"

The New York Times
"Antarctic Glaciers Quicken Pace to Sea; Warming is Cited"

Associated Press (Washington)
"Folded Ice Discovered Beneath Antarctica"

*American Heritage Week
October 4 - 8*

Celebrating American Heritage Week

Pioneering Women of the Eastern Shore

Monday, October 4

11:30 a.m. to 12:30 p.m.

The Williamsburg Room, Bldg. E-2

Join the Women of Wallops Federal Women's Program for a lunchtime panel discussion in celebration of The American Heritage Week theme promoting "Beach to Bay: Celebrating the Eastern Shore Way." The panel will feature **Pioneering Women of the Eastern Shore**.

Panel guests will include Sharone Bailey, owner of Center for Life Changes in Exmore, Va.; Kim Cooke, director of Transitions in Salisbury, Md.; Eveline Cropper, community leader, volunteer, minister, and employee of NOAA Wallops CDA Station; Lissette Martinez, electrical engineer at NASA Wallops Flight Facility, and Rebecca Miller, Director of the NABB Research Center for Delmarva History at Salisbury University. These women will offer insights into their special strengths, characteristics, and values; reflect on what has personal meaning and value in their lives; and what inspires them.

Feel free to bring your lunch. Kathryn Redden, CUBE Corp., will facilitate the discussion.

Beach Cleanup 2004



Photo by Keith Koehler

Twenty-nine personnel and family members from NASA, Navy and the Marine Science Consortium braved the elements September 18 to participate in the annual beach cleanup on Wallops Island. Participants collected and cataloged 29 bags of trash totalling 1,640 pounds.

Excellent Support

Dan Moses, Naval Research Laboratory

"Support from Wallops Flight Facility and the White Sands Missile Range (for Terrier-Black Brant 36.184 US, Dec. 5, 2003) was outstanding. I have always had excellent support from the NSROC group, formerly the SPARCS group.... They excelled on this mission as well. The new personnel are extremely good and the future is bright..... Bruce Scott was a mission manager in whom I quickly developed trust. His ability to retain a cool head through the various pressures was very impressive.

I also want to make a special acknowledgement of the oversight provided by Frank Lau. The depth of his understanding of WSMR operations and the insight he has developed is comprehensive. Frank demonstrates the capabilities equivalent to an individual with a degree in experimental science. Some of the greatest experimentalists of the last 40 years have passed through the suborbital program and someone with curiosity and communication skills would learn more experimental science than most of the accompanying graduate students. Frank Lau definitely fits this description..... "

Fall Festival 2004

Saturday, October 2

11 a.m. - 3 p.m. at the Pavilion

* Food * Games * Hay Rides * Ice Cream



Prizes for games and drawings.

Menu includes roast pork with various sauces, coleslaw, baked beans, lemonade, adult beverages, and hand-dipped ice cream

\$5 per person, children 12 and under free
Tickets available at the Exchange in Bldg. E-2, Cafeteria. For more information contact Mike Barnhill at x1641

Make Your Move a Safe One

A safe move requires coordination, cooperation and patience. Injuries can occur from moving furniture. Don't be a mishap statistic.

Contact the Wallops Institutional Consolidated Contract (WICC) Help Desk at x4357 when planning to move office furniture and equipment.

Unplugged Group

Every Monday at lunchtime
Bldg. F-3, Rocket Club

For more information contact Chip Blackwell at x1481

Dart League

Luck of the Draw
Every Tuesday at 5:30 p.m.
Bldg. F-3, Rocket Club
\$5.00 entry per person

For more information contact Rob Cass at x2376 or Alex Lawson at x1772

Wallops Music Club

Every Wednesday at 5 p.m.
Bldg. F-3, Rocket Club

For more information contact Dale Johnson at x1445

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage:

www.wff.nasa.gov

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